MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2017/2018

TSA2151 SYSTEM ADMINISTRATION AND MAINTENANCE
(All Sections / Groups)

26 OCTOBER 2017
9.00 AM – 11.00 AM
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This question paper consists of 3 pages including cover page.

2. Attempt **ALL** questions. All questions carry equal marks and the distribution of the marks for each question is given.

3. Write all your answers CLEARLY in the Answer Booklet provided.

Question 1

A. Discuss Linux IDE disk partitions by defining the notations for the disks and provide sufficient examples.

(4 marks)

B. Advanced Package Tool (apt) is a program for installing and configuring packages from online sources. Write the terminal commands for an Ubuntu server to get the newest version of packages and their dependencies then install a x-windows manager (eg fluxbox).

(3 marks)

C. Linux can be run on a virtual machine either by installing the OS from scratch using a CD/DVD image or using a screenshot of the virtual machine (eg Virtual Machine Disk (VMDK)). Briefly discuss VMDK.

(3 marks)

Question 2

A. BIND (Berkely Internet Name Domain) is a popular software for translating domain names into IP addresses and it is usually found on Linux servers.

   i)   Write the terminal command to install the BIND software.   (1 mark)
   ii) State the configuration file that must be altered to make it the Primary Master Server.   (1 mark)
   iii) Write the terminal command to check the validity of the configuration files.
   (1 mark)
   iv) State the package that needs to be installed to use the domain information groper (dig) command.   (1 mark)

B. The sshd_config file must be modified to customise the OpenSSH server.

   i)   Write the terminal commands to create a copy of the original sshd_config file called sshd_config.backup and make the file read only.   (2 marks)
   ii) State the parameter changes to sshd_config to deny root login using ssh.
   (1 mark)
   iii) State the parameter changes to sshd_config to disable password-based authentication.   (1 mark)

C. ISPConfig is an open source hosting control panel for Linux which is capable of managing multiple servers from one control panel. Briefly discuss **TWO (2)** benefits of ISPConfig.

(2 marks)

Continued...

Question 3

A. Linux virtualization lies at the heart of today's trends in data center consolidation, high-performance computing, rapid provisioning, business continuity, and workload management. Summarize Linux virtualization and suggest **TWO (2)** popular Linux virtualization solutions.

(3 marks)

B. Discuss **THREE (3)** methods to run BASH script.

(6 marks)

C. Write a simple bash script that display and refresh a content of directory every 5 second.

(1 mark)

Question 4

A. Briefly discuss the `rsync` backup utility and its benefits as compared to traditional tools like `cp, cpio or tar`.

(3 marks)

B. `tar` (i.e., tape archive) utility is used to convert a group of files into an archive. Summarize `tar` basic basic syntax and options that are useful in creating backup archive.

(6 marks)

C. The `mysqldump` command can be used to dump a database or a collection of databases for backup or for transferring the data to another SQL server. Give a `mysqldump` command to dump a database called student with `student.sql` as the dump file.

(1 mark)

Question 5

A. Differentiate between static and dynamic content of website. Give TWO (2) methods in Apache web server for handling dynamic content of a website.

(3 marks)

B. What is a LAMP server and briefly discuss its components.

(5 marks)

C. Your friend installed Ubuntu on his computer and found out there was no LAMP server available in the software center. He was somehow stuck on how to install LAMP server on his machine. As a system administrator, give your friend TWO (2) terminal commands for installing LAMP server.

(2 marks)

End of Paper